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CENTRAL INTELLIGENCE AGENCY

13 January 1949

INTELLIGENCE MEMORANDUM NO. 121

SUBJECT: Brief Evaluation of Transportation Maps of the USSR

This memorandum presents a brief summary and evaluation of Soviet maps submitted in answer to a specific request for published map information on railroads, roads, waterways and pipelines of the USSR.

1. Railroads.

Adequate railroad data in map form for the Soviet Union are not available. Soviet security has reduced the variety and completeness of unclassified railroad maps. Those available are generally reliable in what they show but they do not give the complete picture for the date of publication. A Soviet security instruction was published in 1939 which assigned security classifications to certain features shown on maps. Railroad lines and spurs not shown in the timetables and gazetteers of the Peoples Commissariat for Communication were classified secret and were to be shown only on maps at a scale of 1:100,000 or larger. Other features given a secret classification were large railroad junctions with warehouses, workshops, unloading depots, water reservoirs serving settlements and railroads, termini of railroads, and zones along railroads. Important economic features (not specified) were to be excluded from all maps at a scale of 1:400,000 or larger that were made available to the general public. The maps described in this section are at small scale and show the railroad pattern for the whole or parts of the USSR. Large-scale topographic maps ranging in scale from 1:25,000 to 1:500,000 should be consulted for additional data on railroad features. Areal coverage is limited to European USSR and to a few scattered areas in Asiatic USSR. The map libraries of the Army Map Service and the Central Intelligence Agency should be consulted in order to obtain the available coverage.

The latest and best map for railroads of the entire USSR is Soyuz Sovetskikh Sotsialisticheskikh Respublik, 1:4,000,000, compiled in 1945 and printed in 1947 (CIA Call No. 36179). Although the map shows more information than any other Soviet map to date, it is not complete. The line from Alapayevsk to Sos'va (east of north of Sverdlovsk), shown as in construction, is now completed.

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A schematic map of railroads is Skhema Zheleznodorozhnykh i Vodnykh Putey Soobshcheniya Soyuz SSR, 1:2,800,000, 1940 (CIA Call No. 3216). The map is obsolete but useful because of the numerous stations and stops identified. An OSS map, Railroads of Western USSR, in two sheets (CIA 6173 and 6174), is a careful compilation based on extensive research, but is now obsolete.

The Soviet railroad program under the Fourth Five-Year Plan for the reconstruction of damaged lines and the construction of new ones is shown in part on map CIA 10763. The information on this map copied from a recent Soviet map is not included on the OSS map (CIA 6173 and 6174) or on the Soviet map of 1940 (CIA Call No. 3216). Although map CIA 10763 does not cover the entire USSR or show the complete program for the part of the USSR it covers, it does indicate the importance of some lines in the western area, new lines to be built, existing electrified lines, and additional lines to be electrified.

Bridge data for railroads and roads are shown on the German Verkehrskarte, 1:1,000,000 (CIA Call No. 9335). The information is not complete. The set apparently contains data held by the Germans late in 1941 and early in 1942. The set also is valuable because of other road and railroad information. Unfortunately, available sheets cover only portions of European USSR.

Maps of railroads and railroad facilities of southeastern Siberia (CIA 5901 and 5902) were prepared by the OSS for JANIS studies and are the best map sources available for railroads of the area.

A Polish study of communications in the European USSR, dated March 1939 (CIA uncataloged), gives a variety of information, particularly on railroads. Some of the maps may be of value for information on junctions, track capacities, loading regions, fortified points, traffic density, etc. The data are obsolete but generally reliable for the date of publication.

Density of freight traffic on railroads and waterways is shown on a map entitled Densite du Traffic Marchandises (CIA Call No. 37446). It is the only Soviet map of its type available. Although it is out of date, the basic information is still useful. Movement of passenger traffic is shown on Department of State maps CIA 10673 and 10674.

Maps 18, 19, and 20 in the Ekonomicheskii Atlas Murmanskogo Okruga (CIA uncataloged) show traffic movement by quantity for different types of commodities. The most detailed treatment of traffic flow and density

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is in Atlas Moskovskoy Oblasti (CIA uncataloged), published in 1931 when the Oblast was larger than it is at the present time. Pertinent plates are the back of page 33, the inset of page 37, the back of page 39, the front and back of pages 43, 44, the front and back of page 45, pages 46-47, and page 48.

2. Roads.

Road maps of the USSR are generally unsatisfactory. Many show meaningless classifications of roads while others are based on unreliable sources.

Soyuz Sovetskikh Sotsialisticheskikh Respublik, 1:4,000,000 (CIA Call No. 36179), shows the latest coverage of the entire USSR, based on a more meaningful classification of roads than is usually employed. Here again information is withheld and some of the principal Soviet highway connections with the west are not given. The map CIA 10774 provides some of this missing information.

German maps of the area are generally no more reliable than other maps. Most of the small-scale maps are overgeneralized or carry incorrect road classifications. However, a German set, Durchgängigkeit des Kaukasus, 1:500,000 (CIA Call No. 38702), shows excellent road detail with descriptions of bridges, road-cuts, grades, etc. Similar but less reliable information is given on Verkehrskarte, 1:1,000,000 (CIA Call No. 9335).

Maps of road traffic flow are available for only two small areas, the Buryat-Mongolian ASSR (CIA Call No. 20014) and the Nizhegorodskaya Guberniya — now Gor'kiy Oblast' — (CIA Call No. 23275). Both show points of origin and destination of freight moving over roads.

Some additional road information may be found on OSS map CIA 7149 and on a map of the Caucasus (CIA Call No. 37210).

3. Waterways.

Soviet security regulations restrict the information on waterways that may be shown on maps. Soviet maps published after 1929 show less than do the earlier maps. The Soviet map Karta Vnutrennikh Vodnykh Putey Yevropeyskoy Chasti SSSR, 1:1,500,000 (CIA Call No. 23313), shows detail on types and characteristics of waterways but is dated 1929 and covers only the European part of the USSR. No Soviet map of comparable scale published since then has incorporated as much detail. A later map, Karta Vodnykh Putey Soobshcheniya Aziatskoy Chasti SSSR, 1:5,000,000 (CIA Call No. 23476), published in 1935 is not as comprehensive. Nevertheless, both maps are important basic sources on waterways.

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Another less well-known Soviet source of information on waterways is a Soviet regional hydrologic study called Spravochnik po Vodnym Resursam SSSR (Handbook on Water Resources of the USSR) consisting of about 18 volumes. Each volume contains maps classifying important rivers on the basis of their suitability for different forms of river transport. This classification of rivers may reveal points where breaks in transportation take place. Unfortunately, a complete set of the study covering the entire USSR is not available in the United States. The largest collection of volumes is in the Library of the U. S. Geological Survey. Individual volumes are held by CIA, the Department of State (DRE/EE), and the Library of the Department of Agriculture.

German map studies do not add much new information. The Mil-Geo studies show very few data that are not generally available on other maps. One map, however, entitled Europaisches Russland, Gewasserkarte, 1:2,500,000 (CIA Call No. 39873), in Militargeographische Angaben über das Europäische Russland Allgemeiner Überblick, gives river depths and widths. Regional maps in each of the regional studies give river depths and widths at larger scales. Some of the maps are less reliable than others; for example, the map in folder (Mappe) Die Wolgagebiete 1941, shows the Volga-Don canal which even today is far from completion.

The Wehrgeographischer Atlas der Union der Sozialistischen Sowjetrepubliken 1941 (available at the CIA Map Library), on plate 177 shows waterways with transshipping points identified. Plate 182 shows in chart form the length of artificial waterways in 1936. The economic importance of the inland waterways is given in a German atlas, UDSSR Wirtschafts atlas Verkehr, Binnenschifffahrt, which is dated 1944 and shows information for 1938. Fifty pages of bar graphs present an analysis of Soviet inland waterway traffic by river and by commodity carried. Eleven maps cover rivers of the European USSR and give freight movements by commodity and the administrative divisions of shipping areas. All of the maps are schematic. The atlas is not available in the CIA Map Library, but the AMS or the German Military Document Section, Pentagon, may have copies.

There are few maps of individual canal systems of the Soviet Union. The Soviet map (CIA Call No. 23313), mentioned earlier, gives excellent detail for canals existing in 1929. The Moscow-Volga canal system is shown at the scale of 1:500,000 on plate 23 of Bol'shoy Sovetskiy Atlas Mira (Great Soviet Atlas of the World), Vol. II. The White Sea-Baltic Canal is shown on plate 30 at a scale of 1:750,000, but only the northern half of the canal is given in detail. Additional installations and details are shown on a map of the Moscow-Volga Canal (CIA Call No. 40229).

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Navigability of the Don is shown on a German map (CIA Call No. 37498). Some additional information for the entire country may be found on a Soviet map (CIA Call No. 23495).

4. Pipelines.

Pipeline data have been classified secret under Soviet security regulations since 1939, and probably for some time before. The latest Soviet maps of pipelines are in the Great Soviet Atlas of the World, Vol. II. Only petroleum lines are shown. These appear on plates 57-58, 59-60, 111, 113, and 117. There is some reason to believe that not all pipelines are shown. A grandiose network of petroleum pipelines appears in a 1940 pictorial cartogram (CIA Call No. 32256) published to propagandize the Third Five-Year Plan (1938-1942). It does not, however, distinguish between existing and projected lines. A few details on pipeline installations appear on some German reprints of Soviet topographic maps at scales of 1:200,000. These are available at the Army Map Service and CIA Map Library (CIA Call No. 9626).

The Germans compiled several maps showing pipelines in the Caucasus. These are on file in the "Heringen Collection", Military Geology Section, U. S. Geological Survey. (The maps are uncataloged and no file numbers are available.)

No Soviet maps have been found that show gas lines. All major pipelines in prewar USSR were oil lines. The first gas line in the USSR was built during World War II.

Three American maps or map series show gas and petroleum lines. USSR Pipe Lines appears in the USSR Strategic Intelligence Digest, Vol. III, opposite p. 4-4. The map, however, does not show all of the lines described in the text. A series of maps appears in the World Oil Atlas, 1947, published by the Oil Weekly (pp. 265-289). They show some of the lines not shown on the SID map and omit others. A copy is available in the Library of Congress. An older OSS Map (CIA 693) shows pipelines in the Caucasus based on the Vol. II of the Great Soviet Atlas of the World. Production data were obtained from various sources available at the date of publication.

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